

# JULIAN FULTON

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## DEGREES

- PhD Energy and Resources Group, University of California, Berkeley, 2015.  
MSc Civil and Environmental Engineering, University of California, Berkeley, 2007.  
BA International Development Studies, University of California, Berkeley, 2002.

## ACADEMIC APPOINTMENTS

- Associate Professor, Environmental Studies Dept., California State University Sacramento, 2021 –  
Assistant Professor, Environmental Studies Dept., California State University Sacramento, 2016 – 2021  
Lecturer, Energy and Resources Group, UC Berkeley, 2016 –  
Postdoctoral Scholar, Dept. of Environmental Science and Policy, University of California Davis, 2015.

## PUBLICATIONS

### Peer-reviewed journal articles

- Yang, J., **Fulton, J.**, Swarnaraja, S., & Carson, C. (2023). Machine Learning to Support Citizen Science in Urban Environmental Management. *Heliyon*, 9(12). <https://doi.org/10.1016/j.heliyon.2023.e22688>
- Kraus-Polk, A., & Fulton, J. (2022). We Make the Delta, and the Delta Makes us. *Frontiers for Young Minds*, 10. <https://doi.org/10.3389/FRYM.2022.615776>
- Fulton, J.**, & Jin, Y. (2021). Historical and projected datasets of the United States electricity-water-climate nexus. *Data in Brief*, 38, 107399. <https://doi.org/10.1016/j.dib.2021.107399>
- Fulton, J.**, & Jin, Y. (2021). Visualizing the United States electricity-water-climate nexus. *Environmental Modelling and Software*, 143, 105128. <https://doi.org/10.1016/j.envsoft.2021.105128>
- Jin, Y., Yang, E. J., & **Fulton, J.** (2021). An Empirical Study of Environmental Data Prediction in the United States Energy-Water Nexus. *IEEE Access*, 1–1. <https://doi.org/10.1109/access.2021.3058887>
- Kraus-Polk, A., & **Fulton, J.** (2020). California's Sacramento-San Joaquin Delta as an Exemplary Anthropocene Landscape. *Case Studies in the Environment*, 4(1), 1–11. <https://doi.org/10.1525/cse.2020.1225640>
- Fulton, J.**, Norton, M., & Shilling, F. (2019). Water-indexed benefits and impacts of California almonds. *Ecological Indicators*. <https://doi.org/10.1016/j.ecolind.2017.12.063>
- Mekonnen, M. M., & **Fulton, J.** (2018). The effect of diet changes and food loss reduction in reducing the water footprint of an average American. *Water International*, 43(6), 860–870. <https://doi.org/10.1080/02508060.2018.1515571>
- Fulton, J.**, & Cooley, H. (2015). The Water Footprint of California's Energy System, 1990–2012. *Environmental Science & Technology*, 49(6), 3314–3321. <https://doi.org/10.1021/es505034x>
- Fulton, J.**, Cooley, H., & Gleick, P. H. (2014). Water Footprint Outcomes and Policy Relevance Change with Scale Considered: Evidence from California. *Water Resources Management*, 28(11), 3637–3649. <https://doi.org/10.1007/s11269-014-0692-1>
- Kallis, G., Ray, I., **Fulton, J.**, & McMahon, J. E. (2010). Public Versus Private: Does It Matter for Water Conservation? Insights from California. *Environmental Management*, 45(1), 177–191. <https://doi.org/10.1007/s00267-009-9403-8>

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## Book chapters, reports, and other

**Fulton, J.,** & Cooley, H. (2018). The Water Footprint of California's Energy System, 1990–2012. In P. Gleick (Ed.), *The World's Water, Volume 9*. Oakland, CA: Pacific Institute.

Wang, H., Bonilla-Cedrez, C., **Fulton, J.,** and Shilling, F. (2017). *Improving the (Net) Almond Water Footprint*. Prepared for the Almond Board of California.

Fischer-Kowalski, M., Dittrich, M., Eisenmenger, N., **Fulton, J.,** Kastner, T., Hoskin, K., Schandle, H., West, J., & Wiedmann, T. (2015). *International Trade in Resources: A Biophysical Assessment*, Report of the International Resource Panel. United Nations Environment Program.

**Fulton, J.,** & Shilling, F. (2015). California's Water Footprint Is Too Big for Its Pipes. In A. Lassiter (Ed.), *Sustainable Water: Challenges and Solutions from California*. Berkeley, CA: UC Press.

**Fulton, J.,** Cooley, H., Cardenas, S., & Shilling, F. (2014). Trends and Variation in California's Water Footprint. In *California Water Plan Update 2013*. Sacramento, CA: California Department of Water Resources.

**Fulton, J.,** Cooley, H., & Gleick, P.H. (2014). Water Footprints. In P. Gleick (Ed.), *The World's Water, Volume 8*. Washington, DC: Island Press.

**Fulton, J.,** Cooley, H., & Gleick, P.H. (2012). *California's Water Footprint*. Oakland, CA: Pacific Institute.

Cooley, H., **Fulton, J.,** & Gleick, P.H. (2011). *Water for Energy: Future Water Needs for Electricity in the Intermountain West*. Oakland, CA: Pacific Institute.

## COURSES TAUGHT

*Introduction to Environmental Science* (ENVS 10): a general education course covering science and policy dimensions of today's environmental challenges. Undergraduate, 3 units, 40-80 students.

*California Water and Society* (ENVS 135): upper division course that I developed, covering the historical, scientific, legal, institutional, and economic background needed to understand California's water policy challenges. Undergraduate, 3 units, 30-40 students. Also part of Sustainable Interdisciplinary Research to Inspire Undergraduate Success (SIRIUS II), an NSF-funded program.

*Energy, Society and the Environment* (ENVS 140): an upper division course that I developed, covering the concepts and tools necessary to understand society's diverse technology and policy choices around energy production, use, and transitions. Undergraduate, 3 units, 30-40 students.

*Senior Thesis* (ENVS 190): a required culminating experience and assessment of students' research and writing skills in the form of a 5,000+ word literature review. Responsibilities include teaching research methods and writing skills to 40-60 students, and intensive, individual advising of 10-15 students.

*Environmental Studies Seminar* (ENVS 187): a required speaker-series for all ENVS students. Teaching entails organizing guest speakers and grading student writing assignments.

## GRANTS, FELLOWSHIPS, CONTRACTS & AWARDS

University Early-Career Faculty Award for Research, Scholarship, and Creative Activity, 2023-2024. CSU Sacramento. \$2,500 and 3 units of release time, awarded.

San Francisco Bay Water Quality Improvement Fund (Principle Investigator) – “Participatory Science for a Trash-Free SF Bay,” 2024-2026. US Environmental Protection Agency Region 9, \$742,240, awarded.

Course Redesign Grant: Achieving Equitable Outcomes in Undergraduate Education – “Introduction to Environmental Science,” 2022-23. CSU Sacramento Office of Undergraduate Studies, \$13,500, awarded.

Faculty Research Incentive Award – “Climate risk assessment in the U.S. urban water sector,” 2022. CSU Water Resources and Policy Initiative, \$8,072, awarded.

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Professional Learning Community: Cultivating Community-Engaged Faculty, Staff and Students: Seeding the Anchor University, 2021-22. CSU Sacramento Center for Teaching and Learning, \$800, awarded.

Exchange Network Grant (Principal Investigator) – “Trash Rapid Assessment Data Exchange,” 2020-23. US Environmental Protection Agency, \$199,967, awarded.

Incentive for Developing External Awards (IDEA) award – proposal to USEPA Exchange Network Grant Program, 2020. CSU Sacramento Office of Research, Innovation, and Economic Development, \$2,500, awarded.

Almond Board Research Grant (Co-Principal Investigator) – “Improving the (Net) Almond Water Footprint (Year 2),” 2018-19. Almond Board of California, \$56,460, awarded.

Pedagogy Enhancement Award, 2018-19. CSU Sacramento Center for Teaching and Learning, \$500 and 3 units of release time, awarded.

Faculty Council Travel Award, Summer 2018. CSU Sacramento College of Social Sciences and Interdisciplinary Studies, \$2,000, awarded.

Research and Creative Activity Faculty Award – “Redefining ‘water use’ in California.” Spring-Summer 2018. CSU Sacramento Office of Research Affairs, \$1,791 plus 3 units release time, awarded.

Faculty Fellowship for Student Success, Spring 2018. CSU Sacramento College of Social Sciences and Interdisciplinary Studies (SSIS), 3 units release time, awarded.

Exchange Network Grant (Principal Investigator) – “Energy-water-emission dashboard,” 2017-20. US Environmental Protection Agency, \$299,699, awarded.

Almond Board Research Grant (Co-Principal Investigator) – “Improving the (Net) Almond Water Footprint,” 2016-17. Almond Board of California, \$110,000, awarded.

Faculty Learning Community: Equity and Student Success: Inclusive Teaching for Diverse Learners, 2016-2017 CSU Sacramento Center for Teaching and Learning, \$800, awarded.

Research Award, 2016-17. CSU Sacramento Institute for Water, Energy, Sustainability and Technology, \$7,000 plus 6 units release time, awarded.

New Faculty Research Fellowship, 2016. CSU Sacramento College of Social Sciences and Interdisciplinary Studies, \$5,000, awarded.

Postdoctoral Research Fellowship, 2015-16. UC MEXUS-CONACYT, declined.

Science & Technology Policy Fellowship, 2015-16. California Council on Science & Technology, declined.

Water Sustainability and Climate Grant, 2014. National Science Foundation, \$1,500,000, not awarded.

Stephen Hall Water Policy Scholarship, 2014. Association of California Water Agencies, \$7,000, awarded.

John L. Simpson Memorial Research Fellowship in International and Comparative Studies, 2013. UC Berkeley Institute of International Studies, \$5,000, awarded.

Berkeley-Austria Predissertation Fellowship, 2011. Austrian Marshall Plan Foundation, \$5,000, awarded.

Fulbright Student Award, Netherlands, 2007-2008. Institute of International Education, \$15,000, awarded.

## CONFERENCES, WORKSHOPS & PRESENTATIONS (\* = postponed/canceled due to covid)

“A Participatory Science Approach to the Trash Amendments,” **Oral Presenter**, California Stormwater Quality Association (CASQA) Annual Conference, October 21-23, 2024.

“A Participatory Science Approach to Monitoring Trash In Stormwater,” **Oral Presenter**, California Water Quality Monitoring Collaboration Network Webinar Series, July 25, 2024.

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- “Trash: Community Monitoring and the Trash Rapid Assessment Data Exchange,” **Oral Presenter**, California Water Resources Control Board Stormwater Program Round Table, June 15, 2023.
- “Visualizing the United States Electricity-Water-Climate Nexus,” **Oral Presenter**, American Geophysical Union Fall Meeting (virtual), December 2021.
- “Citizen & Community Science and the California Trash Amendments,” **Oral Presenter**, California Water Resources Control Board Trash Data Dive, October 2021.
- “Trash Rapid Assessment Data Exchange,” **Oral Presenter**, California Water Quality Monitoring Council Trash Monitoring Workgroup, November 2020.
- “Energy-Water-Emissions Dashboard,” **Oral Presenter**, Western States Federal Agency Support Team (WestFAST) Special Topics Webinar (virtual), September 2020.
- “Assessment of California’s Water Footprint,” **Keynote Speaker (delivered virtually)**, 2nd Workshop on the Water-Energy-Food Nexus, Institute for Innovation & Sustainable Development in Food Chain, Public University of Navarre, Spain, June 2020.
- \* “Energy-Water-Emissions Dashboard,” **Oral Presenter**, E-Enterprise National Meeting, US Environmental Protection Agency/Information Exchange Network, Chicago, May 2020.
  - \* “Almond Water Footprints: Beyond the One-Gallon-Per-Nut Complex,” **Oral Presenter and Conference Organizing Committee Member**, Water Resources and Policy Initiatives Conference, CSU Los Angeles, April 2020.
- Human Dimensions in Delta Environments, **Participant**, Delta Stewardship Council, UC Davis, July 2019.
- Reimagining California Water, **Participant**, UC Water and UCANR Annual Meeting, Sacramento, October 2018.
- “Fixing water? Discourses and deals in California's struggle with aridity and wealth,” **Oral Presenter**, Political Ecology Network (POLLEN) Biennial Conference, Oslo, Norway, June 2018.
- “Water Security Risk and California Trade,” **Invited Panelist**, Pacific Council on International Policy Water Conference, Los Angeles, 2017.
- “Improving the (Net) Almond Water Footprint,” **Poster Presenter**, The Almond Conference, Sacramento, 2017.
- “The Water Footprint of California's Energy System, 1990-2015,” **Oral Presenter**, World Environmental and Water Resources Congress, Sacramento, CA, 2017.
- “California: a case of (and for) water footprint,” **Invited Oral Presenter**, Virtual Water in Agricultural Products: Quantification, Limitations and Trade Policy, Nebraska Water Center in collaboration with Organization for Economic Co-operation and Development, Lincoln, NE, 2016.
- Invited Participant**, California’s Water Future: An Advanced Communications Workshop, UC Santa Barbara Bren School in collaboration with COMPASS Communications. Santa Barbara, CA, 2016.
- “Water, Virtual Water, and Governance in California's Hydro-Social Cycle,” **Oral Presenter**, Political Ecology of Water in the West, American Association of Geographers Annual Meeting, San Francisco, 2016.
- “Trends in California’s Water Footprint, 1992-2012,” **Co-presenter**, Assessing Water Footprint & Impact of Water Quality on Water Availability, American Geophysical Union Fall Meeting, San Francisco, 2015.
- “Water Fairness in a Changing Global Economy,” **Oral Presenter**, First Austrian Conference on International Resources Politics: Theories, Conflicts and Policies, Vienna, Austria, 2014.

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“California's Water: Resilience or Risk?” **Workshop Leader**, Berkeley Water Group Idea Lab Watershop, Berkeley, CA, 2014.

“Looking Forward – Policies, Investments & Strategies to Better Weather Drought,” **Session Organizer**, Berkeley Energy & Resources Collaborative Roundtable: “California in Drought,” Berkeley, CA, 2014.

“Water Footprint Outcomes and Policy Options: A California Case Study,” **Oral Presenter**, Methods and Tools for Improved Cooperation at Basin Level, Stockholm World Water Week, Sweden, 2013.

“Historical processes on virtual water: Contributions from United States and Spain,” **Session Organizer and Oral Presenter**, European Society for Environmental History, Munich, Germany, 2013.

“Conflicting Securities? Climate Change and Sea Level Rise in California’s Sacramento-San Joaquin Delta,” **Oral Presenter**, Caricostas: Integrated Management of Coastal Zones, Santiago, Cuba, 2013.

“California’s Historical Water Footprint: Expanding Notions of Sustainable Use,” **Oral Presenter**, Water Resources & Sustainable Development, Association of American Geographers, Los Angeles, CA, 2013.

“Water Footprint Usefulness as a Sustainability Indicator Depends on Scale Considered,” **Poster Presenter**, Socio-hydrology: Discovering Patterns in Coupled Human-Water Resource Systems, American Geophysical Union Fall Meeting, San Francisco, CA, 2012.

“Virtual Water, Real Conflict: Linking Consumption and Resilience at the Onset of Climate Change,” **Poster Presenter**, American Association for the Advancement of Science, Washington, DC, 2011.

**Volunteer**, Bay Decisionmakers Conference, Bay Planning Coalition, Oakland, CA, 2009.

**Scholarship Recipient**, California Water Policy Conference, Pasadena, CA, 2006 & 2008.

**Oral Presenter**, World Wide Workshop of Young Environmental Scientists, Paris, France, 2008.

**Conference Organizer**, Water Trade: A Virtual Reality? UNESCO-IHE, Delft, Netherlands, 2008.

**Invited Participant**, European Water Forum: New Visions and Strategies, Brussels, Belgium, 2008.

## PEER REVIEWING ACTIVITIES

Agricultural Water Management, Elsevier, 2020 –

Environmental Science and Policy, Elsevier 2020 –

Data in Brief, Elsevier, 2020 –

Environmental Research Letters, IOP Publishing, 2020 –

Journal of Hydrology, Elsevier, 2019 –

Social Science Research, Elsevier, 2019 –

Sustainable Cities and Society, Elsevier, 2019 –

Water Resources Research, American Geophysical Union, 2018 –

Hydrology and Earth System Sciences, European Geosciences Union, 2017 –

Environmental Science and Technology, American Chemical Society, 2015 –

Science of the Total Environment, 2016 –

Nature Climate Change, Nature Publishing Group, 2015 –

Ecological Indicators, Elsevier, 2015 –

Earth's Future, American Geophysical Union, 2014 –

Hydrologic Sciences Journal, Int’l Association of Hydrologic Sciences, 2014 –

Global and Planetary Change, Elsevier, 2013 –

Proceedings of the National Academies of Sciences (PNAS), 2012 –

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## PROFESSIONAL & RESEARCH EXPERIENCE

**Scientific Advisor**, ClimateCheck (Oakland, CA), 2019 – present. Provide scientific advising to a startup with a mission to assess and report climate change risk to potential homebuyers. Develop ClimateCheck's Drought Risk method and consult on other risk categories and overall concept design.

**Research Affiliate**, Pacific Institute (Oakland, CA), Water Program, 2010 – 2015. Worked on three institute reports and two journal articles as lead author, and gave five presentations to state agencies.

**Selected Participant**, University of California Berkeley Summer Institute for Preparing Future Faculty, 2014. Studied and presented on civic engagement in U.S. higher education system.

**e-Evaluator**, U.S. Agency for International Development, Securing Water for Food Grand Challenge for Development, 2014. Reviewed thirty Concept Notes submitted internationally for funding.

**Selected Participant**, European Network for Political Ecology, Summer School “Commons, Conflicts and Disasters,” 2013. Presented work and participated in reading workshops.

**Guest Researcher**, Institute for Social Ecology, Austria, 2012, 2014, 2015. Exchanged with experts in social metabolism, presented to group seminar, and developed UNEP publication.

**Selected Participant**, Autonomous University of Barcelona, Spain, Institute of Science & Environmental Technology Summer School “Environmental Conflicts & Justice,” 2011.

**Consultant**, Union of Concerned Scientists, USA, Energy & Water in a Warming World Initiative, 2010. Conducted literature review and data analysis of water impacts of unconventional fossil fuels.

**Graduate Student Researcher**, Berkeley Arsenic Alleviation Group, University of California, Berkeley, 2009. Built and tested electrochemical arsenic removal water purification system for pilot in Bangladesh.

**Guest Researcher**, Autonomous University of Barcelona, Spain, Institute of Science & Environmental Technology (ICTA), 2008. Completed and submitted a peer-reviewed publication with Giorgos Kallis et al.

**Fulbright Fellow**, Technical University Delft, Netherlands, Water Research Centre, 2007-2008. Took courses and researched Dutch environmental management in context of E.U. water directives.

**Selected Participant**, UC Berkeley – EU Water Framework Directive Study Tour, Portugal, 2007. Worked with planners and local groups on Directive implementation. Presented to local government.

**Guest Researcher**, Lawrence Berkeley National Laboratory, Energy Analysis Department, 2007. Designed, surveyed and analyzed water customer behavior under differing conservation strategies.

## SERVICE TO INSTITUTION & COMMUNITY

University General Education Course Review Subcommittee, **Member**, CSU Sacramento, 2024 – present.

College of Social Sciences and Interdisciplinary Studies Faculty Council Committee, **Member**, CSU Sacramento, 2024 – present.

California Statewide Plastics Monitoring Strategy and Multi-Year Plan Technical Advisory Committee, **Member**, 2024 – present.

California Trash Monitoring Workgroup, Data Management Subcommittee, **Member**, California Water Quality Monitoring Council, 2020 – present.

University Sustainability Steering Committee, **Member**, CSU Sacramento, 2019 – present.

Environmental Studies Department Hiring Committee, **Chair**, CSU Sacramento, 2023 – 2024.

College of Social Sciences and Interdisciplinary Studies Outstanding Faculty Awards Selection Committee, **Member**, CSU Sacramento, 2019 – 2023.

Environmental Studies Department Hiring Committee, **Member**, CSU Sacramento, 2017 – present.

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Annual Conference Planning Committee, **Member**, CSU-Water (formerly WRPI), California State University (systemwide initiative), 2019 – 2023.

Trash Data Dive Steering Committee, **Member**, California State Water Resources Control Board, 2021.

Environmental Studies Dept. Primary Committee (promotion reviews), **Chair**, CSU Sacramento, 2021.

McNair Scholars Program, **Mentor**, CSU Sacramento, 2019-2020.

Environmental Studies Dept. Hiring Committee (Dept. Chair hire), **Chair**, CSU Sacramento, 2018 – 2019.

Faculty Senate, **Senator**, CSU Sacramento, 2017 – 2019.

Research and Creative Activity Subcommittee, **Peer Reviewer**, CSU Sacramento, 2018.

Professional Leave Committee (Faculty Senate), **Member**, CSU Sacramento, 2016 – 2018.

Organizing Committee: *Water and Fire: Impacts of Climate Change*, **Member**, CSU Sacramento, 2016.

William Gianelli Water Leaders Class, **Invited Lecture**, Water Education Foundation, Sacramento, 2016.

Sacramento 95H<sub>2</sub>O: A series on water & Sacramento, **Invited Lecture**, Sacramento Public Library, 2016.

Climate Change and Sustainability Speaker Series, **Invited Lecture**, EPA Region 9, San Francisco, 2016.

## OTHER

Modeling & computing skills: WEAP, WaterGAP, CropWat, Cal-SIMETA, GTAP, ArcGIS, R.

Languages\International Language Roundtable Scale: Spanish\4, Portuguese\3, German\1, Italian\1.